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10/580,585	12/20/2006	Laurent Dubedout	291613US6PCT	5553
22850 7590 06/09/2010 OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, L.L.P. 1940 DUKE STREET ALEXANDRIA, VA 22314				
EXAMINER WILLIAMS, ROBERT H.				
ART UNIT 3679		PAPER NUMBER		
NOTIFICATION DATE 06/09/2010		DELIVERY MODE ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

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### Office Action Summary

**Application No.**

10/580,585

**Applicant(s)**

DUBEDOUT ET AL.

**Examiner**

Robert Williams

**Art Unit**

3679

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 May 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-13 and 15-23 is/are pending in the application.
- 4a) Of the above claim(s) 18 and 19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13, 15-17 and 20-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 5/10/10 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Continued Examination Under 37 CFR 1.114*

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 5/10/10 has been entered.

### *Election/Restrictions*

2. Applicant's traverse in the reply filed on 5/10/10 is acknowledged. The traversal is on the ground(s) that the inventions have unity of invention *a priori* because claim 18 is an independent claim for a process adapted for the manufacture of the product of independent claim 1. This argument tends to show that the inventions have unity of invention *a priori*. However, this is not found persuasive at least because the claims as currently presented lack unity of invention *a posteriori*, as further discussed in paragraph 3, below.

The requirement is still deemed proper and is therefore made FINAL.

3. The inventions listed as Groups I and II do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: the common technical features between the groups are the structural elements set forth in claim 1, which are provided in the method of claim 18. These features cannot be special technical features under PCT Rule 13.2 because the elements are known in the prior art. PCT Application Publication WO 03/060370, Verger et al., in view of PCT Application Publication WO 98/42947, Metcalfe, teaches an assembly of two expandable threaded tubular joints substantially as claimed in claim 1.

4. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

5. The examiner has required restriction between product and process claims. Where applicant elects claims directed to the product, and the product claims are subsequently found allowable, withdrawn process claims that depend from or otherwise require all the limitations of the allowable product claim will be considered

for rejoinder. All claims directed to a nonelected process invention must require all the limitations of an allowable product claim for that process invention to be rejoined.

In the event of rejoinder, the requirement for restriction between the product claims and the rejoined process claims will be withdrawn, and the rejoined process claims will be fully examined for patentability in accordance with 37 CFR 1.104. Thus, to be allowable, the rejoined claims must meet all criteria for patentability including the requirements of 35 U.S.C. 101, 102, 103 and 112. Until all claims to the elected product are found allowable, an otherwise proper restriction requirement between product claims and process claims may be maintained. Withdrawn process claims that are not commensurate in scope with an allowable product claim will not be rejoined. See MPEP § 821.04(b). Additionally, in order to retain the right to rejoinder in accordance with the above policy, applicant is advised that the process claims should be amended during prosecution to require the limitations of the product claims. **Failure to do so may result in a loss of the right to rejoinder.** Further, note that the prohibition against double patenting rejections of 35 U.S.C. 121 does not apply where the restriction requirement is withdrawn by the examiner before the patent issues. See MPEP § 804.01.

6. Claims 18 and 19, as currently presented, are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: the claims properly presented in the application as filed were drawn only to the product

of Group I, original claims 18 and 19 were not subject to examination on the merits because they contained improper multiple dependencies.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 18 and 19 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

#### *Drawings*

7. The drawings were received on 5/10/10. These drawings are acceptable.

#### *Claim Objections*

8. Claim 1 is objected to because lines 23-24, “each abutment surface rests against the corresponding fourth abutment surface” should read --each first abutment surface rests against the corresponding fourth abutment surface --. The claims as currently presented appear to require that the fourth abutment surface rest against itself. The removal of reference number SB1, that previously indicated which particular abutment surfaces were resting against the fourth abutment surfaces, necessitated this objection.

Accordingly, it is noted that the use of reference characters in the claims is permissible, provided they are enclosed within parentheses. MPEP 608.01(m).

Appropriate correction is required.

9. Claim 1 is objected to because the phrase “the assembly is configured to develop, after diametral expansion in the plastic deformation region, sealing interference contacts sealing the assembly, and the first and second tubular elements are sealed” in lines 25-27 is grammatically incorrect because the verb tenses “to develop” and “are sealed” do not agree. As best understood, the claim should state, for example, - the first and second tubular elements will be sealed--.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

10. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

11. Claims 1-13, 15-17, and 20-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

12. Regarding claim 1, the limitation “an annular zone having an initial reduced thickness selected such that the section of the sleeve in the region of this zone is greater

than or equal to the product of the section of a common portion of said tubes and the efficiency of the joint" renders the claim indefinite because it is unclear how the efficiency of the joint is ascertained. In the specification, page 3 lines 26-27, the common portion of a tube is clearly defined as "the central portion remote from its two ends and having a substantially constant diameter." However, the specification does not provide a clear definition of "the efficiency of the joint." Page 10, on lines 14-16 states "The ratio between the critical section of the threaded elements and the section of the tube (T1, T2) characterises the efficiency of the connection (or of the joint)." The term "critical section" is defined as "a minimum thickness used to calculate the critical section of the threaded joint." (page 10, line 10). Thus, it is disclosed that the thickness of the tubes varies from a maximum at the common portion to a minimum at the critical section. However, it is not clear which section of the tube is used for calculating the efficiency of the joint (i.e., which section is referred to on line 15 of page 10?). As best understood, the efficiency of the joint is the ratio of the critical section thickness over the common portion thickness. If that is the case, then "the product of the section of a common portion of said tubes and the efficiency of the joint" would always be equal to the critical section of the joint. (This is illustrated by the formulae below, where "e" is the efficiency of the joint, "cs" is the critical section, "cp" is the thickness of the common portion, and "M" is the initial thickness of the sleeve.) Therefore, claim 1 appears to



require only that the annular zone has an initial reduced thickness selected such that the section of the sleeve in the region of this zone is greater than or equal to the critical section (i.e., the minimum thickness) of the threaded elements.

$$\begin{aligned}e &= cs / cp \\M &= cp * e \\ \therefore M &= cs\end{aligned}$$

Claims 2-13, 15-17, and 20-23 are indefinite by virtue of their dependence on claim 1. Where claim 1 is indefinite, those claims that depend from it will thereby incorporate the indefinite limitations.

13. Regarding claim 11, the limitation “the material section at the bottom of the groove is greater than the product of the smallest section of a common portion of said tubes, and the efficiency of the joint under tension” renders the claim indefinite for similar reasons as specifically discussed regarding claim 1 above.

#### *Claim Rejections - 35 USC § 103*

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. Claims 1-11, 15-17, and 20-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over PCT Application Publication WO 03/060370, Verger et al. (Verger), in view of PCT Application Publication WO 98/42947, Metcalfe (Metcalfe '947).

16. The Verger reference is a publication of application PCT/FR02/04546 and was published in French. However, U.S. Patent Application Publication 2005/0172472, Verger et al. (also referred to as Verger), which was published in English, is a publication of the U.S. national stage application based on application PCT/FR02/04546. Therefore, although U.S. 2005/0172472 is not applied as prior art, it will be referred to herein, where necessary, only as an English language translation of PCT Application Publication WO 03/060370.

17. Regarding claim 1, Verger discloses an assembly of two expandable threaded tubular joints, disposed symmetrically (paragraph 2, "Such a joint can exist between two tubes of considerable length, or between a tube of considerable length and a sleeve," where it is commonly understood that a sleeve typically includes two symmetrically disposed, identical joints, for example, that of Metcalfe '947) and each comprising,

a first tubular element arranged at an end of a tube and comprising a first portion, provided with a male thread (paragraph 100, "a male threaded element 1

placed at the end of a first tube 11," Fig. 16), and a second portion extending said first portion (Fig. 16) and comprising:

i) a first outer surface (45),

ii) a first annular lip (13) having a first axial abutment surface (25) and a first inner surface (Fig. 16) and delimited by said first outer surface over a portion of the axial length thereof, and

iii) a second abutment surface (Fig. 18), and

a second tubular element (paragraph 100, "a second tube 12") comprising:

i) a female thread, matching the first male thread and screwed thereto

((paragraph 100, "a female threaded element 2 placed at the end of a

second tube 12," Fig. 16; also, see paragraphs 70 and 72, "FIG. 14

represents a fourth phase of the screwing of the joint" and "FIG. 16 is a

view similar to FIG. 14, relating to a variant," i.e., although the threads are

not explicitly shown in Fig. 16, it appears from the translated description

of the drawings that the embodiment of the invention relied on herein

includes threads just as does the first disclosed embodiment of Verger),

ii) a second annular lip, having a third abutment surface (Fig. 18), a

second outer surface (18), configured to be arranged to face said first inner

surface, and a second inner surface (Fig. 16), and wherein

iii) a third inner surface (40) and a fourth axial abutment surface (24) defining with the second outer surface an annular recess (14) matching and receiving the corresponding first lip (Fig. 16 or 18), wherein each second abutment surface rests against the corresponding third abutment surface and/or in that each first abutment surface rests against the corresponding fourth abutment surface (Fig. 16 and/or 18),

wherein the assembly is configured to develop, after diametral expansion in the plastic deformation region, sealing interference contacts sealing the assembly (Fig. 17 or 19), and the first and second tubular elements are sealed with respect to a pressure difference between the inside and outside of the first and second tubular elements (paragraph 8, "a high performance sealed tubular joint").

However, Verger does not disclose said second tubular elements form two opposing ends of a female/female connection sleeve, separated by a central portion initially provided, over an outer surface, with an annular zone having an initial reduced thickness selected such that the section of the sleeve in the region of this zone is greater than or equal to the product of the section of a common portion of said tubes and the efficiency of the joint.

Nevertheless, Metcalfe '947 teaches that it is known in the art to use second tubular elements to form two opposing ends of a female/female connection sleeve (page

8, line 14, "tubular connector," Fig. 2 #16), separated by a central portion (page 8, lines 17-18, "intermediate portion," Fig. 2 #22) initially provided, over an outer surface, with an annular zone having an initial reduced thickness (page 8, lines 26-28, "the connector end portions are upset, that is they include portions of greater wall thickness than the tubing and are of a greater diameter than the tubing," Fig. 2) selected such that the section of the sleeve in the region of this zone is greater than or equal to the product of the section of a common portion of said tubes and the efficiency of the joint (the section of the sleeve in the region of zone 22 is at least equal to the critical section (minimum thickness) of the tubular elements, as described on page 8, lines 24-25, "the connector intermediate portion 22 is of substantially the same wall thickness as the tubing 24, 25," (alternatively, if the thickness of the annular lip 32 or 33 is the minimum thickness, the section of the sleeve at the zone of reduced thickness is clearly greater than this critical section), also see the discussion of "the product of the section of a common portion of said tubes and the efficiency of the joint" in paragraph 12 above).

Therefore, it would have been obvious to one of ordinary skill in the art to provide the second tubular elements or Verger in the conventional form of two opposing ends of a female/female connection sleeve (which is generally disclosed by Verger in paragraph 2, as discussed above), such as that exemplified by Metcalfe '947.

Further, it would have been obvious to provide the connection sleeve with an annular zone having an initial reduced thickness selected such that the section of the sleeve in the region of this zone is greater than or equal to the product of the section of a common portion of said tubes and the efficiency of the joint, as taught by Metcalfe '947, so that "the connector 16 and the tubing lengths 24, 25 will expand in corresponding and predictable manner, minimising the occurrence of irregularities in the internal diameter of the expanded tubing string." Metcalfe '947, page 10, lines 8-11.

18. Regarding claim 2, the combined teachings of Verger and Metcalfe '947, as applied to claim 1 above, further disclose said zone of reduced thickness in the form of a dish provided with a central portion having said maximum reduced thickness and lateral walls (Metcalfe '947, see Fig. 2).

Where it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the assembly of Verger with the zone of reduced thickness of Metcalfe '947, it would further have been obvious for the same reasons to provide the zone in the form disclosed by Metcalfe '947.

However, the combined teachings of Verger and Metcalfe '947 do not explicitly disclose the lateral walls inclined at an angle of less than approximately 30°.

Nevertheless, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a transition from the intermediate

portion to the end portions at a low angle of inclination, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233. Please note that in the instant application, page 4, lines 3-4, applicant has not disclosed any criticality for the claimed limitations. Please further note that the recitation in claim 2 of a range with an approximate limit is broad enough to encompass values outside of the apparent bounds of the range, i.e., "an angle of less than approximately 30°" can include angles greater than 30°, and it is not clear how far above 30° the range "less than approximately 30°" can extend.

Moreover, the variation of the angle of inclination of the lateral walls amounts to nothing more than a change of the shape of the sleeve. Changing the shape of the sleeve of Metcalfe '947 would have been obvious to one of ordinary skill in the art. MPEP 2144.04.

19. Regarding claim 3, the combined teachings of Verger and Metcalfe '947, as applied to claim 2 above, does not explicitly disclose said angle is equal to approximately 15°.

Nevertheless, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a transition from the intermediate portion to the end portions at a low angle of inclination, since it has been held that

where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233. Please note that in the instant application, page 4, lines 3-4, applicant has not disclosed any criticality for the claimed limitations.

Moreover, the variation of the angle of inclination of the lateral walls amounts to nothing more than a change of the shape of the sleeve. Changing the shape of the sleeve of Metcalfe '947 would have been obvious to one of ordinary skill in the art. MPEP 2144.04.

20. Regarding claims 4 and 20, the combined teachings of Verger and Metcalfe '947, as applied to claims 2 and 3 above, further discloses a dish extending substantially in a zone between last threads of the two female threads, (Metcalfe '947, as shown in Figure 2).

Where it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the assembly of Verger with the zone of reduced thickness of Metcalfe '947, it would further have been obvious for the same reasons to provide the zone in the form and location disclosed by Metcalfe '947.

21. Regarding claim 5, the combined teachings of Verger and Metcalfe '947, as applied to claim 4 above, further discloses a dish extending substantially between said



third abutment surfaces of the two second tubular elements, (Metcalfé '947, as shown in Figure 2).

Where it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the assembly of Verger with the zone of reduced thickness of Metcalfé '947, it would further have been obvious for the same reasons to provide the zone in the form and location disclosed by Metcalfé '947.

22. Regarding claim 6, the combined teachings of Verger and Metcalfé '947, as applied to claim 1 above, further discloses said second tubular element comprises, at a selected location of its third inner surface, an inner annular groove (Verger, 44) arranged substantially in the region of said first outer surface (Verger, Fig. 16).

23. Regarding claim 7, the combined teachings of Verger and Metcalfé '947, as applied to claim 6 above, further discloses said groove initially comprises at least two curvilinear portions (Verger, Fig. 16).

24. Regarding claim 8, the combined teachings of Verger and Metcalfé '947, as applied to claim 7 above, further discloses said curvilinear portions initially have substantially identical radii of curvature (Verger, paragraph 199, "ring shaped ribbing 44 presenting a concave profile markedly in the form of an arc of a circle with a radius of about 10 mm").

25. Regarding claim 9, the combined teachings of Verger and Metcalfe '947, as applied to claim 8 above, further discloses said radius of curvature is initially between approximately 2 mm and approximately 20 mm (Verger, paragraph 199, "ring shaped ribbing 44 presenting a concave profile markedly in the form of an arc of a circle with a radius of about 10 mm").

26. Regarding claim 10, the combined teachings of Verger and Metcalfe '947, as applied to claim 7 above, do not explicitly disclose the two curvilinear portions are separated by a substantially cylindrical central portion extending parallel to a longitudinal axis of the assembly.

Nevertheless, it would have been obvious to one having ordinary skill in the art at the time the invention was made to change the shape of the inner annular groove. MPEP 2144.04. Please note that in the instant application, page 10, lines 2-3, "groove G1 may comprise only two curvilinear portions," applicant has disclosed that the claimed limitation is an optional (i.e., clearly non-critical) feature of the invention.

27. Regarding claim 11, the combined teachings of Verger and Metcalfe '947, as applied to claim 1 above, further discloses said groove initially has a radial depth (Verger, paragraph 210, "the ribbing 44 can have ... a depth in the order of a few tenths of a mm."), the maximum value of which is selected such that the material section at the

bottom of the groove is greater than the product of the smallest section of a common portion of said tubes, and the efficiency of the joint under tension (Verger, Fig. 17).

28. Regarding claim 15, the combined teachings of Verger and Metcalfe '947, as applied to claim 1 above, further discloses said male and female threads selected from a group consisting of conical and cylindrical threads and each formed over at least one tubular element portion (Verger, paragraph 104, "male threaded element 3, conical with trapezoidal threads" and paragraph 116, "female threading 4 with trapezoidal threads matching the male threading 3").

29. Regarding claim 16, the combined teachings of Verger and Metcalfe '947, as applied to claim 1 above, further discloses said first outer surface and third inner surface are shaped in such a way that, after expansion, a sealing interference contact is defined between a portion of each of them (Verger, Fig. 17).

30. Regarding claim 17, the combined teachings of Verger and Metcalfe '947, as applied to claim 1 above, further discloses said first and second expandable tubular elements are shaped in such a way that, after said expansion, a sealing interference contact is defined between an inner end portion of said first lip and said second outer surface (Verger, Fig. 17).

31. Regarding claim 20, the combined teachings of Verger and Metcalfe '947, as applied to claim 3 above, fully discloses the claimed invention, as discussed above regarding claim 4.

32. Regarding claim 21, the combined teachings of Verger and Metcalfe '947, as applied to claim 2 above, fully discloses the claimed invention, as discussed above regarding claim 6.

33. Regarding claim 22, the combined teachings of Verger and Metcalfe '947, as applied to claim 6 above, further discloses the assembly is configured to develop, after expansion in the plastic deformation region, sealing interference contact of the first annular lip with a portion of the groove (Verger, Fig. 17).

34. Regarding claim 23, the combined teachings of Verger and Metcalfe '947, as applied to claim 22 above, further discloses the first annular lip takes on a shape of the portion of the groove after the expansion in the plastic deformation region (Verger, Fig. 17, and paragraph 201, "During expansion of the joint, the concave shape of the ribbing 44 impresses a corresponding convex shape on the peripheral surface 7 of the lip").

35. Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combined teachings of Verger and Metcalfe '947, as applied to claim 1 above, and further in view of U.S. Patent 5,462,315, Klementich, hereafter, "Klementich '315."

The combined teachings of Verger and Metcalfe '947, as applied to claim 1 above, does not disclose threads provided with a carrier flank having a negative angle of between approximately  $-3^{\circ}$  and approximately  $-15^{\circ}$  (claim 12) and a stabbing flank having a positive angle of between approximately  $+10^{\circ}$  and approximately  $+30^{\circ}$  (claim 13).

Nevertheless, it is old and well known per se in the relevant art to use a carrier flank having a negative angle of between approximately  $-3^{\circ}$  and approximately  $-15^{\circ}$  and a stabbing flank having a positive angle of between approximately  $+10^{\circ}$  and approximately  $+30^{\circ}$ , as evidenced by Klementich '315 (see Figs. 6A-6D, illustrating that it is known in the art to select the claimed flank angles from among a finite set of known alternatives).

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the threads of the combined teachings of Verger and Metcalfe '947 with flank angles such as those exemplified by Klementich '315.

### *Response to Arguments*

36. Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

37. Specifically regarding the rejection of claim 1 as indefinite, which applicant discusses in the second paragraph of page 11, it is noted that although the amendment clarifies the claim and overcomes the prior rejection, the claim as currently presented, even when considered in view of the specification and the specific definitions set forth therein, remains unclear.

### *Conclusion*

38. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent 3,467,413 discloses a threaded tubular joint that develops sealing interference contacts after plastic deformation.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert Williams whose telephone number is (571)270-1155. The examiner can normally be reached on Mon-Thurs 9:30-7:00, Fri 9:30-2:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel P. Stodola can be reached on 571-272-7087. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/R. W./  
Examiner, Art Unit 3679  
6/2/2010

/Daniel P. Stodola/  
Supervisory Patent Examiner, Art Unit 3679